Name of the Student:_____
Max. Marks : 19 Marks **Time : 19 Minutes**

Mark Schemes

Q1.

(a) (i) A

1

(ii) bar drawn with correct height

ignore width of bar

1

(b) (i) $E = P \times t$

2.4

*allow **1** mark for correct substitution*
ie 1.2 × 2
provided no subsequent step shown

2

(ii) 36 or their (b)(i) × 15 correctly calculated

or

their (b)(i) × 0.15 correctly calculated with an answer given in £

*allow **1** mark for correct substitution*
ie 2.4 × 15

or
their (b)(i) × 15
*allow **1** mark for correct substitution*
provided no subsequent step shown
an answer £0.36 gains both marks

2

[6]

Q2.

(a) (i) 15

1

(ii) 4.5 or their (a)(i) x 0.3 correctly calculated

*allow **1** mark for correct substitution, ie 0.3 x 15/their (a)(i), provided no subsequent step*

2

(ii) decrease

1

(b) **Y**

accept any correct indication
*reason only scores if **Y** is chosen*
accept voltage for p.d.

1

(only one that) shows a direct current / p.d.
or
a battery / cell gives a direct current

*accept both **X** and **Z** are a.c.*

or
a battery/cell gives a constant current/p.d.

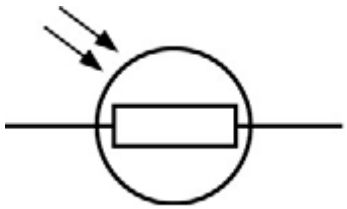
accept it's a constant current/p.d.
it is not changing is insufficient

1

[6]

Q3.

(a) (i) correct symbol ringed



1

(ii) accept any suggestion that would change light intensity, eg:

- torch on or off
  accept power of torch
  *do **not** accept watts / wattage of torch*
- distance between torch and LDR
- lights in room on or off
- shadow over the LDR

1

(b) resistance decreases

1

from 600 kΩ to 200 kΩ

*accept by 400 k*Ω

1

(c) (i) no numbers for light intensity
or
light intensity is categoric / a description / not continuous

not enough results is insufficient

1

(ii) YES

mark is for the reason

both show that resistance increases with decreasing (light) intensity / brightness

accept they both get the same results / pattern

1

(d) A circuit that automatically switches outside lights on when it gets dark.

1

[7]